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A SECOND NOTE UPON
HOMONYMOUS HEMIOPIC HALLUCINATIONS.*

BY FREDERICK PETERSON, M. D.

In Insanity.—In the *New York Medical Journal* for August 30, 1890, I described a case of chronic delusional insanity, or paranoia, in which the visual hallucinations present (ghosts, skeletons, faces, etc.) had the remarkable peculiarity of always appearing in the right fields. There was no hemianopsia. The closing paragraph of that description was as follows :

“Unilateral hallucinations of one eye alone, or uni-ocular hallucinations, have been described by several authors as occurring in the insane, but, so far as I know, this is the first reference that has been made to visual hallucinations of the character herein mentioned, and for which I can find no simpler name than that which forms the title of this article.”

Although this would seem to be the first reference that has been made to homonymous hemiopic hallucinations occurring in the insane, it is not the first time that such hal-

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F. Peterson

lucinations have been mentioned in connection with other brain disorders. Dr. Seguin has, I think, the priority in publishing an account of this phenomenon.

Preceding Hemianopsia.—Dr. Seguin, in his *Clinical Study of Lateral Hemianopsia (Jour. of Nerv. and Ment. Dis., August, 1886, pp. 5-8)*, details a case of embolism of the left occipital artery in a woman, aged thirty four, who at the close of her third confinement,

“just after the child was born, had a peculiar attack, in which she experienced a ‘snap’ or sudden pain in the left temple, and felt giddy. For several days afterward she had severe pain in the head, and could not see objects to her right. At the same time that she first noticed darkness to her right there were a few simple hallucinations (a chair, a chicken, etc.) in the dark half-fields.”

Commenting upon this case, Dr. Seguin wrote at that time (June, 1886) :

“A very interesting symptom, not heretofore described (to my knowledge), occurred in one case. This consisted in hallucinating images in the half-fields which has just become blind. The images were few and simple, such as a chicken, a chair, etc., and rapidly passed away. It seems to me that these hallucinations represented the irritation of the cortical visual center just previous to its destruction; and that they are the analogues of the localized convulsions which are now generally spoken of as indicating an irritating lesion of the cortical motor centers. . . . It is probable that further inquiry will show that hallucinations occur not infrequently at the outset of hemianopsia.”

Accompanying Hemianopsia.—Through Dr. Seguin, Dr. John Van Duyn, of Syracuse, has courteously sent me the following notes of a case seen in his practice presenting the phenomenon of hallucinations occurring in the dark fields of hemianopsia :

“Mrs. J., forty-five years old, the mother of two children, twelve and four years old. She is tall, thin, partially gray, and sallow. She has never been very strong, and has always suffered more or less from headache. The lungs and heart are normal. When the children were born, hæmorrhage was so profuse and exhaustion so great that after each birth she was confined to the bed six weeks. Shortly after the birth of the last child, four years ago, and within the first week, she began to suffer from piercing pain in the right temple, which continued about two weeks. Then she had trouble with vision. ‘Everything seemed to twinkle, and in all directions it seemed as though everything was surrounded by waving heated air, such as arises from a stove, an effect people often experience just before an attack of sick headache.’ Vision was indistinct and there was a blur before the eyes. After this indistinctness of vision had existed some time, she observed that the left half of the field of vision was dark and blind. One week after the occurrence of this blindness hallucinations appeared in the blind region. Cats and dogs and children arranged themselves in rows and formed processions, the children moving in circles, the dogs and cats being still. This continued without any variation and without interruption, except by sleep, for four weeks. The vividness of the scene and the activity of the objects were increased by fatigue or during attacks of headache. After the fourth week the hallucinations disappeared quite suddenly and never returned. The hemiopia has continued. She complains of no trouble except of getting easily tired and of an occasional nervous feeling in her head. She does the work for a family.”

In Epilepsy.—Hemianopsia has been frequently noted by various authors as occurring in epilepsy, but hemiopic hallucinations must be very rare, since many, like Gowers, do not even mention it. A case of this kind recently came under my observation at the Vanderbilt Clinic :

John M., aged eleven, has had for two years an attack of grand mal about once a week. Convulsions general. He always has a visual aura of a white star shining to the left.

In Migraine.—While hemianopsia, muscæ volitantes, etc., are frequent precursors or concomitants of migraine, the appearance of hemiopic spectra in the dark portions of the visual field is rather infrequent. They consist of bright spots, shadows, or irregular arabesque figures. Gowers gives a good description of them.

In Hemiplegia with Hemianopsia.—By far the best contributions to the subject of homonymous hemiopic hallucinations in connection with organic disease of the brain are those of Henschen, in his remarkable book just issued this year (*Klinische und anatomische Beiträge zur Pathologie des Gehirns*, Upsala, 1890). He describes four cases with such hallucinations, three of the patients having hemiplegia and hemianopsia also, while in one they were associated with hemianopsia, mind-blindness, word-blindness, and agraphia. Autopsies were made in two of the cases. The following is a brief synopsis of the cases:

CASE XXI.—Male, aged sixty-two, three apoplectic attacks in 1887 and 1888. Right hemiplegia, some aphasia, paroxysms of laughter and visual hallucinations after the first attack. Deeper aphasia, right hemianopsia after the second seizure. Right-sided hallucinations, for several days after a third attack, of seeing a boy near his bed whom he requested the nurses to remove. Increasing stupidity. Autopsy showed softened areas in the right occipital lobe (O_1 and O_2), internal capsule, and frontal radiation.

CASE XXII.—Male, aged sixty, left hemianopsia without hemiplegia, left-sided visual hallucinations, a certain amount of word-blindness and mind-blindness in the fall of 1885. The hallucinations were of persons and faces constantly present for a long period of time to the left. Autopsy showed softened areas in the right cuneus and lobulus lingualis and in right thalamus. It is but fair to quote Dr. Henschen's remarks concerning the hemiopic hallucinations in this case:

“I can hardly err when I say that, at least at the time in

February, 1886, when I first publicly demonstrated this case to physicians, this was the first case in which visual hallucinations constantly projected in a certain direction have been observed, and the anatomical lesion upon which they depend studied.”

CASE XXXV.—Male, aged sixty-nine, left hemiplegia, left hemianopsia, left-sided hallucinations of seeing water, fire, smoke, soldiers, a little pig eating oats, etc. Left uni-aural hallucination at times. Hallucinations not transitory, but often lasting for many minutes, and observed during several months. No autopsy.

CASE XXXVI.—Female, aged seventy-six, right hemiplegia, aphasia, right hemianopsia, mind-blindness, right-sided visual hallucinations of cats, etc. The hallucinations continued for several weeks. Patient improved and went home.

Remarks.—The pathological basis for this interesting phenomenon of homonymous hemiopic hallucinations must, of course, lie in irritation of the cortex of the occipital lobe. In connection with this subject, I can not do better than quote part of a private letter from Dr. Seguin, dated October 15, 1890, in which he says :

“As regards the hemiopic auræ of epilepsy and migraine, they have been a great deal mentioned, but I doubt if the true theory of the projection has yet been published. Hammond some years ago read a paper on thalamic epilepsy, in which he attributed hemiopic auræ to irritation of the thalamus. Several of us held out for a cortical irritation, but we did not then know the visual center. However, I think it does not follow that the irritation in such cases is of the cuneus. This is undoubtedly a positive center (a sort of first cortical station) for visual impressions; but there are many reasons for thinking that residua of visual impressions are redistributed and stored in various gyri of the occipital lobe, so that while destruction of the cuneus (and of the gyrus just below) *must abolish* half of vision, it does not follow that all projections are due to an irritation of this small part; they may be due to irritation of vari-

ous parts of the occipital cortex (on one side for hemiopic auræ).”

As regards the hemianopsia of migraine, Dr. Seguin thinks that

“spasm of the occipital artery (supplying the cuneus on one side) may quite surely be assumed to occur” (*N. Y. Med. Journal*, April 26, 1890, foot-note, page 450),

and I am of the opinion that partial anæmias in the cortex due to the same cause may account for the hallucinatory symptoms in the same disease.

While irritation from organic lesions and from vascular spasm easily makes clear the origin of homonymous hemiopic hallucinations in most of the cases cited above, the manner of their production in a case of paranoia, such as I have described in my first note upon this subject, is rather more difficult to explain.

In the periodic functional disorders migraine and epilepsy, where left-sided or right-sided hallucinations and generally hemianopsia precede the attacks, there is a periodic occipital cortical discharge with more or less complete obscuration of the visual half fields.

In the organic diseases of the brain there are two conditions. In Dr. Seguin's case, simple transitory hallucinations announced the onset of an organic lesion which rapidly produced complete blindness toward the right. In Dr. Van Dyun's case and in Dr. Henschen's four cases—all organic cases—the hemiopic hallucinations projected in the dark fields lasted from a few days to a few months.

In my own case there was no reason to suspect organic disease of any kind; there was no hemianopsia, and the hallucinations had endured for months. This would bespeak a mild, chronic nutritive disturbance in the cortex, without periodicity, as in migraine and epilepsy, and not

limited in duration by the advance or recession of some coarse lesion as in the organic cases cited. Indeed, we must adduce the same sort of theory to explain the acute hallucinations of ordinary delirium or the chronic hallucinations of insanity; only in this patient the protoplasmic molecular discomposure seemed to be limited to certain cortical areas of one hemisphere.

